



IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Stephen V. Deckers

Confirmation No.: 8460

Application No.: 10/656,040

Examiner: Khoi H. Tran

Filing Date: 09/04/2003

Group Art Unit: 3651

Title: Disk Cartridge Data Storage Methods and Apparatus

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith in **triplicate** is the Reply Brief with respect to the Examiner's Answer mailed on May 04, 2005. This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new grounds of rejection.)

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Respectfully submitted,

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PATENT APPLICATION  
Docket No.: 10004377-3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND  
INTERFERENCES

In re application of:

Inventor(s):	Stephen V. Deckers
Serial No.:	10/656,040
Filed:	September 04, 2003
Title:	DISK CARTRIDGE DATA STORAGE METHODS AND APPARATUS
Art Unit:	3651
Examiner:	Khoi H. Tran
Confirmation No.:	8460

Mail Stop APPEAL BRIEF – PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

REPLY BRIEF

SIR OR MADAM:

This communication is the Reply Brief in this application, which is being filed in response to the Examiner's Answer mailed on May 04, 2005. This Reply Brief is being filed under the provisions of 37 C.F.R. § 41.41.

(Continued on next page.)

Docket No. 10004377-3  
Reply Brief

Reply to Examiner's Answer:

(A). Whether claim 45 is unpatentable under 35 U.S.C. § 112, first paragraph.

In the Examiner's Answer, the Examiner contends that the Appellant's figures 1-4 show that the claimed docking device is non-enabling. The Examiner appears to base this contention on the following points made by the Examiner in the Examiner's Answer:

- 1) in the Appellant's drawing figures, there is an air gap shown between the right side of the hard disk cartridge and the docking device (130) when the hard disk cartridge is in the docking device;
- 2) there is no protruding interface between the tape cartridge (240) and the tape drive (230) as shown in the Appellant's figure 3;
- 3) in order for the tape drive (230) to access and read tape cartridge (240) the cartridge would have to be flush against the tape drive (230);
- 4) in the Appellant's figure 4, the interface (122) will certainly prevent the tape cartridge (240) from being flushed against the docking device (330); and,
- 5) the interface (122) creates an interference between the tape cartridge (240) and the tape reader (231), and the tape reader (231) will not be able to link and read the tape cartridge (240).

In response, the Appellant makes the following contentions:

- 1) the tape cartridge (240) does not have to be flush against the tape drive (231) or the receptacle (230, 330) in order for the tape drive (231) to read and access the tape cartridge (240), as would be recognized by one of ordinary skill in the art; and,
- 2) the interface (122) does not create an interference between the tape cartridge (240) and the receptacle (230, 330), and/or between the tape cartridge (240) and the tape drive (231), which would prevent the tape drive (231) from linking with, and reading, the tape cartridge (240), as would also be recognized by one of ordinary skill in the art.

As the Appellant points out in the background section of the specification, the tape is typically extracted from the tape cartridge when data is read from and/or written to the tape. This fact, as well as an understanding of a typical means for extracting the tape and means for reading data from and/or writing data to the tape, is well known to those of ordinary skill in the art.

For example, as is known to those of ordinary skill in the art, a typical tape cartridge includes a leader block connected to a leader of magnetic tape that is stored on a single reel within the tape cartridge. The leader block nests in an opening through (typically) one corner of the cartridge. A typical tape drive includes an arm on the end of which is a threading pin that is configured to automatically couple with the tape by way of insertion of the pin into a hole defined in the leader block. After the threading pin is inserted into the leader block by way of activation of the arm, the arm is further activated to extract or pull the tape out of the tape cartridge, whereupon the arm is yet further activated to thread the tape onto a second reel provided as a portion of the tape drive. In this manner, the tape is pulled across a read/write head from the first reel to the second reel for reading data from, and/or for writing data to, the tape.

As is also known to those of ordinary skill in the art, when supported in the receptacle, the tape cartridge does not need to be flush against the end of the receptacle, nor is it typically flush against the tape read/write head, and/or flush against any other portion of the tape drive. Additionally, contrary to the Examiner's claims, one of ordinary skill in the art would recognize that because the tape is typically extracted from a corner of the tape cartridge, an interface supported on a disk cartridge, as is shown in the Appellant's drawing figures, would not necessarily interfere with access to the tape by the tape drive. Furthermore, the Appellant contends that one of ordinary skill in the art, after studying the Appellant's specification and drawing figures, could position the interface and/or the tape drive components to avoid interference therebetween.

The Appellant contends that the above-described means of accessing a tape in a tape cartridge are described and/or shown in a multitude of published patent documents, including one such document filed in this application by way of the Appellant's Information Disclosure Statement. The Appellant further contends that such means are therefore known to those of ordinary skill in the art, and that the claim 45 is fully supported in regard to the enablement requirement of 35 U.S.C. § 112, first paragraph.

(B). Whether claims 28, 37, 38, and 44 are unpatentable under 35 U.S.C. § 103 over Kulakowski (6,731,455) in view of Stefansky (5,329,412).

The Examiner contends in the Examiner's Answer that since the disk cartridge housing of the cited references have the size and form factor of a tape cartridge, then

any device housed within a cartridge would have to be able to be received by the docking device.

The Appellant respectfully contends that the Examiner's reasoning is flawed because:

5           1) none of the cited references disclose a disk cartridge having a tape cartridge form factor -- at most, Stefansky discloses a disk cartridge "conforming to the dimensions of a tape cassette having a height of 0.6 inch." (Stefansky, col. 1, lines 56-61.) However, the Appellant argues that dimensions alone are not equivalent to a form factor. That is, the term "form factor" is known to those  
10           of ordinary skill in the art to include significant characteristics in addition to dimensions. Thus, the fact that a given disk cartridge has the same height as a given tape cartridge does not mean that the disk cartridge and the tape cartridge have the same form factor, and it does not mean that both cartridges can be received into the same docking device; and,

15           2) even if the cited prior art did disclose a disk cartridge having a tape cartridge form factor (which it does not), none of the cited prior art discloses an apparatus configured to receive both a tape cartridge and a disk cartridge, wherein the term "receive" is defined by the Appellant to include automatically performing read/write operations on the cartridge. (See Appellant's  
20           specification, page 10, lines 6-18, page 14, line 3 through page 15, line 12, page 16, lines 12-32, and page 17, line 25 through page 19, line 27.)

Based on the above arguments, the Appellant asserts that the cited references do not teach or suggest all of the claimed limitations as set forth in claim 28, as is required for a finding of obviousness. Therefore, a *prima facie* case of obviousness has  
25           not been established in regard to claim 28 because all of the elements and/or limitations of claim 28 are not taught or suggested by the cited prior art. That is, the limitations of claim 28 render the claimed subject matter unobvious over the prior art because the prior art does not disclose these limitations.

30           (C). Whether claims 45 and 46 are unpatentable under 35 U.S.C. § 103 over Kulakowski in view of Stefansky and further in view of Kim (5,666,342).

In the Examiner's Answer, the Examiner contends:

- 1) that motivation to combine the references has been clearly stated in the Examiner's original rejections; and,
- 2) that the Appellant's argument that the structural combination of the references would render the device non-operable is not applicable because the test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

The Appellant agrees that a test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art. However, the Appellant maintains that there is no suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the reference teachings, as is required for a finding of obviousness, because the proposed combination of the prior art teachings would change the principle of operation of the prior art invention being modified, and/or the proposed combination would render the prior art invention being modified unsatisfactory for its intended purpose, as is described in detail above. Either changing the principle of operation or rendering the prior art invention unsatisfactory for its intended use is sufficient to preclude a finding of obviousness.

Additionally, the Appellant notes that there is no reason given in Stefansky for providing a disk cartridge with the dimensions of a tape cartridge. Stefansky states that one of the objects of the invention is to provide a disk drive (cartridge) of "reduced size." (See Stefansky at col. 1, lines 56-61.) However, the Appellant notes that most disk drive cartridges are smaller than most tape cartridges. Therefore, it must be concluded that the selection of tape cartridge dimensions for the disk cartridge taught by Stefansky is a completely arbitrary decision. Accordingly, there is no motivation to combine the teachings of Kulakowski with the teachings of Stefansky in regard to disk cartridge size because there is no associated advantage in doing so that is contained in the cited prior art.

That is, if there were some advantage to making the disk cartridges of Kulakowski smaller, then those disk cartridges would be made smaller regardless of the teachings of Stefansky. Furthermore, there is no stated or implied advantage in making the cartridges of Kulakowski conform to the dimensions of a tape cartridge because neither Kulakowski nor Stefansky employ tape cartridges. That is, in view of the teachings of Stefansky and Kulakowski, why would one want to modify the disk

cartridges of Kulakowski to have the height of a tape cartridge, as Stefansky teaches?  
The Appellant contends the answer is that one would not want to make this modification because there is no advantage and/or reason for doing so.

Moreover, even if there was sufficient motivation to combine the reference teachings, the references when combined still do not teach or suggest all of the limitations of claim 45, as is required for a finding of obviousness. The Examiner in the Examiner's Answer does not address the Appellant's contention that none of the cited prior art teaches a disk cartridge having a tape cartridge form factor, or the Appellant's contention that tape cartridge dimensions are not equivalent to a tape cartridge form factor. The Appellant maintains that none of the cited prior art teaches a disk cartridge having a tape cartridge form factor, and that claim 45 is therefore nonobvious in view of the cited prior art references.

#### Summary

The Appellant respectfully considers claims 28, 37, 38, and 44-46 to be in condition for allowance, and respectfully requests the Board to overturn the final rejections of those claims, and further requests that those claims be allowed.

Dated this 8th day of June, 2005.

Respectfully submitted,

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